WHAT IS CLAIMED IS:

1. A system for manipulating a document object model, the system comprising:

a collection of document object model behavior elements, each behavior element

comprising:

a namespace;

an event attribute for associating the behavior element to an event; and

other attributes for describing features of the behavior element; and

a collection of scripts for performing actions associated with the set of behavior

elements, each script associated with a behavior element.

2. The system as claimed in claim 1, wherein the behavior element is associated with an
extensible markup language element.

3. The system as claimed in claim 2, wherein the behavior element is a child of the
extensible markup language element.

4. The system as claimed in claim 2, wherein the behavior element is a parent of the
extensible markup language element.

5. The system as claimed in claim 1, wherein the actions comprise behavioral mutations
of an output of extensible markup language elements.

6. The system as claimed in claim 1, further comprising an initialization function for
directing the processing of one or more behavior elements in a document object model,
the initialization function having instructions for traversing each node in the document
object model and for searching and calling functions associated with behavior elements
having names following the predetermined naming convention.

7. The system as claimed in claim 6, further comprising:

a collection of behavior attributes for adding to existing regular extensible markup language elements in a document object model, the behavior attributesfollowing the predetermined naming convention; and

a collection of scripts for performing actions associated with the collection of

5   behavior attributes, each script associated with a behavior attribute.

8. The system as claimed in claim 7, wherein the initialization function contains instructions for traversing each node in the document object model and for searching and calling functions associated with behavior elements and behavior attributes having names

10   following the predetermined naming convention.

9. The system as claimed in claim 1, wherein the collection of behavior elements comprises a markup language.

15   10. The system as claimed in claim 1, wherein the collection of behavior elements comprises one or more of:

a dsvg:createElement behavior element for creating a new element and inserting the newly created element in a desired location in the document object model, the dsvg:createElement behavior element comprising:

20   a namespace;

an event attribute for specifying the event that triggers the behavior element, the event attribute settable to a string;

a collection of other attributes comprising:

an identification attribute for referencing the behavior element;

25   a new element identification attribute for specifying the value of an identification attribute of the newly created element;

an element name attribute for specifying the name of the element to be created;

an attributes attribute for containing all of the attributes for the

30   newly created element;

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a namespace attribute for specifying the namespace of the newly created element;

a target attribute for specifying the xpath pointing to the location at which the new element is to be inserted; .

an insert as attribute for specifying whether the new element is to be inserted as a child, parent or sibling of a target element;

an offset attribute for specifying the number of nodes before or after the target element;

a from attribute for specifying whether the offset attribute is relative to first child or last child of the target element;

a preserve target children attribute for specifying whether to copy the children of the target element;

a preserve target events attribute for specifying whether to copy the events of the target element; and

a preserve target attributes attribute for specifying the attributes of the target element; .

a dsvg:createEvent behavior element for creating an event and dispatching the event to a desired target in the document object model, the dsvg:createEvent behavior element comprising:

a namespace following the predetermined naming convention;

an event attribute for specifying the event that triggers the behavior element, the event attribute settable to a string;

a collection of other attributes comprising:

an identification attribute for referencing the behavior element;

an event name attribute for specifying the type of the event;

a source attribute for specifying the xpath to the element that the target will believe created the event;

a target attribute for specifying the xpath to the element to which the event is dispatched;

an event phase attribute for specifying a phase of event flow that is currently being evaluated;

a bubbles attribute for specifying whether or not the event can bubble;

a cancelable attribute for specifying whether or not the event can have its default actions prevented;

a time stamp attribute for specifying the time at which the event was created;

a stop propagation attribute for preventing further propagation of an event during event flow; and

a prevent default attribute for specifying whether or not the event is to be cancelled, so that any default action normally taken by an implementation as a result of the event will not occur;

a dsvg:loadXML behavior element for creating a new element and inserting the newly created element in a desired location in the document object model, the dsvg:loadXML behavior element comprising:

a namespace following the predetermined naming convention;

an event attribute for specifying the event that triggers the behavior element, the event attribute settable to a string;

a collection of other attributes comprising:

an identification attribute for referencing the behavior element;

a source attribute for specifying an xpath to a document or element within a document in an external file;

a target attribute for specifying an xpath pointing to where the document or fragment is to be placed;

an insert as attribute for specifying whether the new fragment is to be inserted as a child, a parent or a sibling of the target element;

an offset attribute for specifying the number of nodes before or after the target element at which to insert the new element;

a from attribute for specifying whether the offset attribute is relative to the first child or last child of the target element;

a preserve target children attribute for specifying whether to copy the children of the target element;

a preserve target events attribute for specifying whether to copy the events of the target element; and

a preserve target attributes attribute for specifying the attributes of the target element;

a dsvg:setAttribute behavior element for creating, modifying, replacing or removing an attribute for a target element in the document object model, the dsvg:setAttribute behavior element comprising:

a namespace following the predetermined naming convention;

an event attribute for specifying the event that triggers the behavior element, the event attribute settable to a string;

a collection of other attributes comprising:

an identification attribute for referencing the behavior element;

a target attribute for specifying an xpath pointing to a location of the target element;

a name attribute for specifying the name of the attribute to be set;

a namespace attribute for specifying a namespace of the attribute to be set;

a modify attribute for specifying whether the attribute is to be created, replaced, removed or modified, with new text added to the beginning or the end of existing text;

a delimiter attribute for specifying text that is to separate a previous value from a new value;

a value attribute for specifying a value that the attribute is to be given; and

a save previous value attribute for specifying whether to save the previous value of the attribute;

a dsvg:setClass behavior element for modifying contents of a class attribute of a target element in the document object model, the dsvg:setClass behavior element comprising:

a namespace following the predetermined naming convention;

5   an event attribute for specifying the event that triggers the behavior element, the event attribute settable to a string;

a collection of other attributes comprising:

an identification attribute for referencing the behavior element;

a target element for specifying an xpath pointing to a location of

10   the target element;

an element identification attribute for specifying the identification attribute of the target element;

a css name attribute for specifying the name of a CSS rule to replace, be added to, or be removed from the class attribute of the target

15   element;

a modify attribute for specifying how the CSS rule should modify the class attribute of the target element; and

a save previous value attribute for specifying whether to save the previous value of the class attribute of the target element;

20   a dsvg:setData behavior element for modifying data of a target element in the document object model, the dsvg:setData behavior element comprising:

a namespace following the predetermined naming convention;

an event attribute for specifying the event that triggers the behavior element, the event attribute settable to a string;

25   a collection of other attributes comprising:

an identification attribute for referencing the behavior element;

a target attribute for specifying an xpath pointing to a location of the target element;

an element identification attribute for specifying the identification

30   attribute of the target element;

a value attribute for specifying the string to replace or add to data of the target element;

a modify attribute for specifying how previous data it to be modified by new data;

an offset attribute for specifying the number of characters from the beginning or end of the data at which to insert new data;

a from attribute for specifying whether the offset attribute is relative to the beginning or end of the data;

a count attribute for specifying the number of consecutive characters after the offset attribute to be replaced by the new data or to have the new data appended after;

a substring attribute for specifying text to search for in the data of the target element;

an occurrence attribute for specifying which occurrence of the substring attribute should be removed, replaced or modified; and

a save previous value attribute for specifying whether to save the previous data of the target element;

a dsvg:setStyle behavior element for modifying the contents of a style attribute of a target element and for replacing the contents of a class attribute in·a target element in the document object model, the dsvg:setStyle behavior element comprising:

a namespace following the predetermined naming convention;

an event attribute for specifying the event that triggers the behavior element, the event attribute settable to a string;

a collection of other attributes comprising:

an identification attribute for referencing the behavior element;

a target attribute for specifying an xpath pointing to a location of the target element;

a name attribute for specifying the name of the style property to be added, removed or replaced;

a value attribute for specifying the value of the style property to be added, removed or replaced;

a modify attribute for specifying how to modify the style attribute of the target element; and

a save previous value attribute for specifying whether to save the previous value of the style attribute of the target element; and

a dsvg:setTransform behavior element for modifying a transform attribute of a target element in the document object model, the dsvg:setTransform behavior element comprising:

a namespace following the predetermined naming convention;

an event attribute for specifying the event that triggers the behavior element, the event attribute settable to a string;

a collection of other attributes comprising:

an identification attribute for referencing the behavior element;

a target attribute for specifying an xpath pointing to the location of the target element;

a matrix attribute for specifying a matrix transformation to be applied to the target element;

an absolute attribute for specifying how to apply a new transformation with respect a current transformation of the target element;

an hAlign attribute for specifying how to calculate and apply a translation to the target element;

a vAlign attribute for specifying how to calculate and apply a translation to the target element;

a reference identification attribute for specifying the identification attribute of the target element; and

a save previous value attribute for specifying whether to save the previous value of the transform attribute of the target element.

11. A system for manipulating a document object model, the system comprising:

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a collection of scripts for performing actions associated with markup behavior elements, each script associated with a behavior element; and

an initialization function for directing the processing of one or more behavior elements in a document object model.

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12. A method of manipulating a document object model, the method comprising the steps of:

searching for a designated element in a document object model; and

calling a script associated with the designated element.

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13. The method as claimed in claim 12, wherein the step of searching includes the steps of:

traversing each node in the document object model; and

determining whether an element has a name which follows a designated naming

15 convention.

14. The method as claimed in claim 12, wherein the step of calling a script includes the steps of:

dynamically generating a function name associated with the designated element;

20 passing an object associated with the designated element as a parameter of the generated function;

retrieving the attributes of the object; and

performing a function stored in memory having the generated function name.

25 15. The method as claimed in claim 14, wherein the step of dynamically generating includes the steps of:

determining if the name of the designated element contains a designated prefix;

generating a function name comprising of the name of the designated element;

assigning an object associated with the designated element as the parameter of the

30 function; and

assigning predetermined instructions of the designated element as steps for the function to perform.

16. The method as claimed in claim 12, wherein the step of calling a script includes the steps of:

determining which script in a collection of scripts is associated with the designated element; and

calling the script.

17. The method as claimed in claim 12, further comprising the steps of:

searching for a designated attribute in an element in a document object model; and

calling a script associated with the designated attribute.

18. The method as claimed in claim 17, wherein the step of searching for a designated attribute comprises the steps of:

searching attributes of an element in a document object model;

determining whether an element attribute has a name which follows a designated naming convention.

19. The method as claimed in claim 17, wherein the step of calling a script includes the steps of:

determining if the name of the designated attribute contains a designated prefix;

generating a function name comprising of the name of the designated attribute;

assigning an object associated with the designated attribute as the parameter of the function name ; and

assigning predetermined instructions of the designated attribute as steps for a function having the function name to perform.

20. The method as claimed in claim 17, wherein the step of calling a script includes the steps of:

dynamically generating a function name associated with the designated attribute;

passing an object associated with the designated attribute as a parameter of the generated function name;

receiving the attributes of the object; and

5 performing a function stored in memory having the generated function name.

21. The method as claimed in claim 20, wherein the step of dynamically generating comprises the steps of:

determining if the name of the designated attribute contains a designated prefix;

10 generating a function name comprising of the name of the designated attribute;

assigning an object associated with the designated attribute as the parameter of the function; and

assigning predetermined instructions of the designated attribute as steps for the function to perform.

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22. The method as claimed in claim 17, wherein the step of calling a script includes the steps of:

determining which script in a collection of scripts is associated with the designated attribute; and

20 calling the script.

23. A method of manipulating a document object model, the method comprising the steps of:

adding an event listener to an element having a designated element as a child in

25 the document object model;

receiving an event which is equal to an event attribute setting in the designated element; and

calling a script associated with the designated element.

24. The method as claimed in claim 23, wherein the step of calling a script includes the steps of:

        determining if the name of the designated element contains a designated prefix;

        generating a function name comprising of the name of the designated element;

5   assigning an object associated with the designated element as the parameter of the function name; and

        assigning predetermined instructions of the designated element as steps for a function having the function name to perform.

10   25. The method as claimed in claim 23, wherein the step of calling a script includes the steps of:

        dynamically generating a function name associated with the designated element;

        passing an object associated with the designated element as a parameter of the generated function name;

15   receiving the attributes of the object; and

        performing a function stored in memory having the generated function name.

26. A method of creating an element for manipulating a document object model, the method comprising the steps of:

20   categorizing low level actions into behavior groupings;

        determining common attributes of a behavior grouping; and

        creating a behavior element having the common attributes of the behavior grouping.